Center for
Health Statistics

California Department of Health Services

Cerebrovascular Disease Deaths California 1999

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DATA SUMMARY No. DS02-07000

This Data Summary is one of a series of leading cause of death reports.

Highlights

- **Cerebrovascular disease is the 3rd leading cause of death in California and in the U.S.**
- **People age 65 and older had 88.6% of all cerebrovascular disease deaths in California.**
- **California's age-adjusted death rate for cerebrovascular disease is 63.3 per 100,000 population.**
- **California did not meet the Year 2010 National Health Objective to reduce the age-adjusted death rate to no more than 48 deaths per 100,000 population.**

Introduction

In 1999, cerebrovascular disease was the 3rd leading cause of death in California and in the United States, following heart disease and cancer.[1,2] Each year in the U.S., approximately 600,000 people suffer a new or recurrent stroke.[3] Although males have a higher incidence of stroke than females, females account for more than half of all stroke deaths.[3] In 1999, there were 167,366 deaths due to cerebrovascular disease in the United States. Of these deaths, 102,881 were among females and 64,485 were among males.[2]

Due to the prevalence of cerebrovascular disease in this country, the U.S. Public Health Service established a national health objective for *Healthy People 2010*, seeking to reduce the number of cerebrovascular disease deaths to an age-adjusted rate of no more than 48 per 100,000 population.[4]

This report presents data on California's cerebrovascular disease deaths for 1999, and provides analysis of crude and age-adjusted death rates for California residents by sex, age, and race/ethnicity. The cerebrovascular disease data included in this report are extracted from vital statistics records with death attributed to cerebrovascular disease as defined by the 10th Revision of the *International Classification of Diseases* (ICD-10) codes I60-I69 in accordance with the National Center for Health Statistics Reports.[5]

Cerebrovascular Disease Deaths

Table 1 (page 8) shows California's cerebrovascular disease death data by race/ethnicity, age, and sex. In 1999, there were 18,079 deaths due to cerebrovascular disease. Of these deaths, 59.8 percent were among females, and 40.2 percent were among males. California residents, aged 65 and older,

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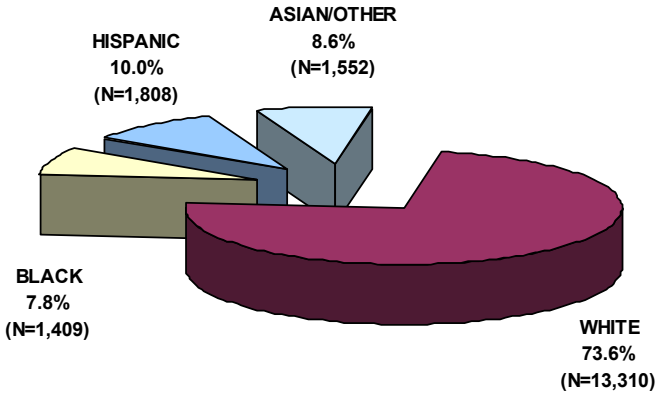
[1] Riedmiller, K., Bindra K. *Vital Statistics of California*, 1999. Center for Health Statistics, California Department of Health Services.
[2] National Center for Health Statistics, Deaths: Preliminary Data for 1999, *National Vital Statistics Reports,* DHHS Pub. No. (PHS) 2001-1120, PRS 01-0358 (6/2001).
[3] American Heart Association. *2001 Heart and Stroke Statistical Update.* Dallas, TX: American Heart Association, 2000.
[4] U.S. Department of Health and Human Services, *Healthy People 2010 Objectives* (*Second Edition, in Two Volumes)*. Washington, D.C., January 2001.
[5] National Center for Health Statistics. *Vital Statistics, Instructions for Classifying the Underlying Cause of Death*. NCHS Instruction Manual, Part 9. Hyattsville, Maryland: Public Health Service, 1999.

A description of methods and a brief overview of data limitations and qualifications are provided at the end of this report.

had the highest percentage of deaths (88.6) due to cerebrovascular disease. Similar patterns also existed among people aged 65 and older for each race/ethnic group. Decedents (aged 65 and older) accounted for 92.7 percent of the deaths among Whites, 80.0 percent among Asian/Other, 75.7 percent among Blacks, and 75.3 percent among Hispanics.

As shown in **Figure 1,** Whites had the highest percentage of cerebrovascular disease deaths (73.6), followed by Hispanics (10.0), Asian/Other (8.6), and Blacks (7.8).

FIGURE 1
CEREBROVASCULAR DISEASE DEATHS
BY RACE/ETHNICITY
CALIFORNIA, 1999
(By Place of Residence)
(N=18,079)



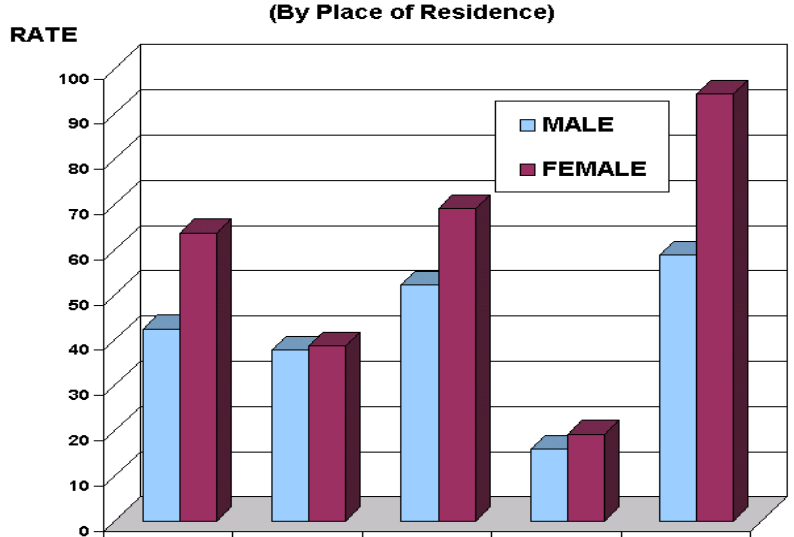
Source: State of California, Department of Health Services, Death Records.

Cerebrovascular Disease Crude Death Rates

As shown in **Table 1** (page 8), California's cerebrovascular disease crude death rate was 53.1 per 100,000 population. Whites had the highest crude death rate (76.8), followed by Blacks (60.7), Asian/Other (38.2), and Hispanics (17.5).

Figure 2 shows that among California residents females had a higher overall crude

FIGURE 2
CEREBROVASCULAR DISEASE
CRUDE DEATH RATES BY
SEX AND RACE/ETHNICITY
CALIFORNIA, 1999
(By Place of Residence)



	TOTAL	ASIAN/ OTHER	BLACK	HISPANIC	WHITE
MALE	42.5	37.8	52.2	15.9	58.9
FEMALE	63.7	38.6	69.0	19.2	94.3

Source: State of California, Department of Health Services, Death Records.

See the Methodological Approach Section later in this report for an explanation of crude and age-specific death rates.

death rate (63.7) per 100,000 population compared with males who had a rate of 42.5. Females also had higher crude death rates than males among each race/ethnic group. White females had a rate of 94.3 deaths per 100,000 population, while White males had a rate of 58.9. Black females had a rate of 69.0 and Black males had a rate of 52.2. Asian/Other females had a rate of 38.6 compared with Asian/Other males, which had a rate of 37.8. Hispanic females had a rate of 19.2 and Hispanic males had a rate of 15.9.

The crude death rates for White, Black, and Hispanic females were significantly higher than the rates for males in their corresponding race/ethnic group. Although Asian/Other females had a higher crude death rate than Asian/Other males, the difference was not statistically significant.

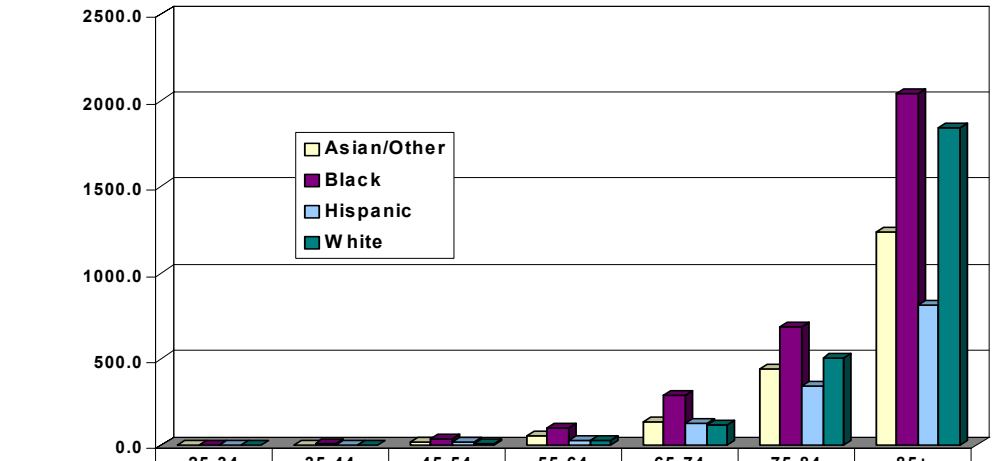
Cerebrovascular Disease Age-Specific Death Rates

Table 1 (page 8) shows that the reliable age-specific death rates among California residents and for all the race/ethnic groups increased with age.

Among males and females with reliable rates in their respective race/ethnic group, White males had higher age-specific death rates than White females, except in the 35 to 44 and 85 and older age groups. Black males had higher rates than Black females, except in the 85 and older age group. Hispanic males had higher rates than Hispanic females, except in the 55 to 64 age group; and Asian/Other males had higher rates than Asian/Other females, except in the 45 to 54 age group.

As shown in **Figure 3**, Blacks had significantly higher age-specific death rates than the other three race/ethnic groups.

FIGURE 3
CEREBROVASCULAR DISEASE
AGE-SPECIFIC DEATH RATES
BY RACE/ETHNICITY AND AGE
CALIFORNIA 1999
(By Place of Residence)



	25-34	35-44	45-54	55-64	65-74	75-84	85+
Asian/Other	0.5	5.4	19.7	54.6	141.3	440.1	1233.1
Black	3.0	11.3	41.6	100.9	292.0	685.9	2036.5
Hispanic	2.2	4.8	17.4	31.6	128.5	345.8	812.2
White	0.9	4.3	11.2	30.6	123.1	504.3	1844.3

Source: State of California, Department of Health Services, Death Records.

See the Vital Statistics Query System (VSQ) at our web site www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm to create your own vital statistics tables.

Among all four race/ethnic groups, Hispanics had the lowest reliable age-specific death rate (2.2) in the 25 to 34 age group, and Blacks had the highest rate (2,036.5) in the 85 and older age group.

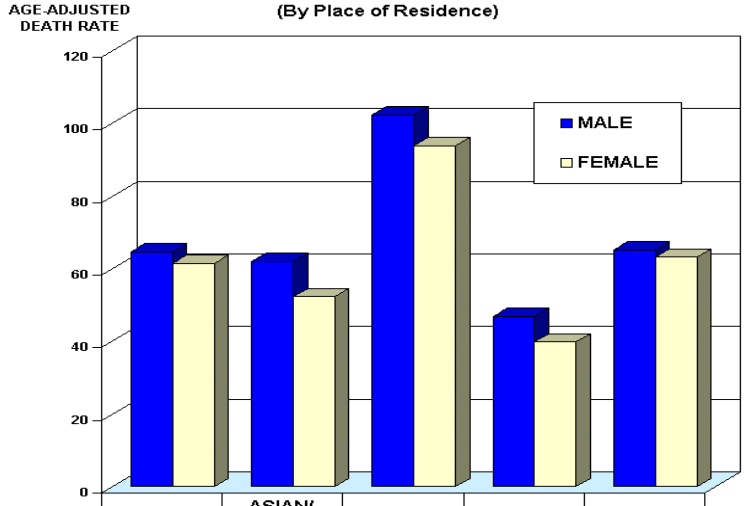
Cerebrovascular Disease Age-Adjusted Death Rates

In 1999, California's age-adjusted death rate of 63.3 per 100,000 population was higher than the U.S. age-adjusted death rate of 61.8. During this year, California did not meet the *Healthy People 2010* National Health Objective to reduce the age-adjusted cerebrovascular disease deaths to no more than 48 deaths per 100,000 population.[2,4,6]

Among the four race/ethnic groups, Blacks had an age-adjusted death rate of 98.6, which was significantly higher than Whites (64.4), Asian/Other (56.6), and Hispanics (42.9).

As shown in **Figure 4**, males had higher age-adjusted death rates than females in California and among each of the race/ethnic groups. The age-adjusted death rate of 64.7 among California males was significantly higher than the female rate of 61.5. Among the four race/ethnic groups, Black, Hispanic, and Asian/Other males had significantly higher age-adjusted death rates than their female counterparts. White males, however, did not have a significantly higher rate than White females.

FIGURE 4
CEREBROVASCULAR DISEASE
AGE-ADJUSTED DEATH RATES
BY SEX AND RACE/ETHNICITY
CALIFORNIA, 1999
(By Place of Residence)



	TOTAL	ASIAN/ OTHER	BLACK	HISPANIC	WHITE
MALE	64.7	62.1	102.3	46.8	65.3
FEMALE	61.5	52.3	93.9	39.8	63.2

Source: State of California, Department of Health Services, Death Records.

Cerebrovascular Disease Death Rates for California Counties

Table 2 (page 9) shows the number of cerebrovascular disease deaths with crude and age-adjusted death rates for California and its 58 counties.

Among the counties with reliable death rates, Napa County had the highest crude death rate (107.1) per 100,000 population and Imperial County had the lowest rate (37.2). Among the age-adjusted death rates, Yuba County had the highest rate (97.1), and San Benito had the lowest rate (47.3).

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[6] Klein RJ, Schoenborn, CA. Healthy People 2010 Statistical Notes: *Age Adjustment using the 2000 Projected U.S. Population.* National Center for Health Statistics, DHHS Publication, No 20. January 2001.

You can read more about crude and age-adjusted death rates on the National Center for Health Statistics web site at www.cdc.gov/nchs

Six counties (1 with a reliable rate) met the Year 2010 National Health Objective to reduce all cerebrovascular disease deaths to an age-adjusted rate of no more than 48.0 deaths per 100,000 population.

Cerebrovascular Disease Deaths among the Three City Health Jurisdictions

Table 3 shows the 1999 cerebrovascular disease deaths and crude death rates for California's three city health jurisdictions.

Long Beach had the highest number of deaths due to cerebrovascular disease (245), followed by Pasadena (72), and Berkeley (67).

Among the crude death rates, Berkeley had a rate of 64.7 per 100,000 population, Pasadena (53.1), and Long Beach (52.4).

TABLE 3
CEREBROVASCULAR DISEASE DEATHS
AMONG THE CITY HEALTH JURISDICTIONS
CALIFORNIA, 1999
(By Place of Residence)

CITY HEALTH JURISDICTION	NUMBER OF DEATHS	1999 POPULATION	CRUDE DEATH RATE
BERKELEY	67	103,500	64.7
LONG BEACH	245	467,400	52.4
PASADENA	72	135,500	53.1

Note: Rates are per 100,000 population, ICD-10 codes I60-I69.
Source: State of California, Department of Finance, E-4 Historical *City/County Population Estimates 1991-2000, with 1990 Census Counts, September 2001.*
State of California, Department of Health Services, Death Records.

Age-adjusted death rates were not calculated for the city health jurisdictions because city population data by age are not available.

Methodological Approach

The methods used to analyze vital statistics data are important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the age compositions of various populations, they do not provide a statistically valid method for comparing geographic areas or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group and are used along with standard population proportions to develop a weighted average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates, therefore, provide the preferred method for comparisons of different race/ethnic groups, sexes, and geographic areas, and for measuring death rates over time. The 2000 U.S. (standard million) population is used as the basis for age-adjustment in this report.

For more data, see DHS Center for Health Statistics, Home Page at www.dhs.ca.gov/org/hisp/chs/chsindex.htm

Data Limitations and Qualifications

The cerebrovascular disease death data presented are based on the vital statistics records with ICD-10 codes I60-I69 as defined by the National Center for Health Statistics.[7]

The term "significant" within the text means that the variance is statistically significant based on the difference between two independent rates ($p < .05$).

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. To assist the reader, 95 percent confidence intervals are provided in the data tables as a tool for measuring the reliability of death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (*).

Beginning in 1999, cause of death is reported using ICD-10 codes.[8] Cause of death for 1979 through 1998 was coded using the 9th Revision of the *International Classification of Diseases* (ICD-9). Depending on the specific cause of death, the number of deaths and death rate are not comparable between ICD-9 and ICD-10. Therefore, our analyses involve only ICD-9 data (1979-1998) on prior reports and only ICD-10 data for this report (1999 and later), and do not combine both ICD-9 and ICD-10 data.

Unreliable rates have increased on Tables 2 and 3 because of the small numbers associated with one year of data. Three-year average numbers using ICD-10 coding for cause of death will reduce this problem when the data are available in 2002.

The four race/ethnic groups presented in the tables are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the "White race/ethnic group" includes: White, Other (specified), Not Stated, and Unknown, and the "Asian/Other race/ethnic group" includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other.[9]

Effective with 1999 mortality data, the standard population for calculating age adjustments was changed from 1940 to the year 2000 population (standard million) in accordance with new statistical policy implemented by the National Center for Health

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[7]Kochanek KD, Smith BL, Anderson RN. Deaths: Final Data for 1999. *National Vital Statistics Reports*; vol 49, no 8. Hyattsville, Maryland: National Center for Health Statistics, 2001.
[8]World Health Organization. *International Statistical Classification of Diseases and Related Health Problems. Tenth Revision*. Geneva: World Health Organization, 1992.
[9]Rosenberg HM, et al. *Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. Vital and Health Statistics,* Series 2, No. 128, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328, September 1999.

Statistics. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.[7] Age-adjusted rates presented in this report are not comparable to rates calculated with different population standards.

In addition, the population data used to calculate the crude rates in Table 3 (page 5) differ from the population data used to calculate the crude rates in Table 2 (page 9). Consequently, caution should be exercised when comparing the crude rates among the three local city health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for local city health jurisdictions were not calculated.

For a more complete explanation of the age adjustment methodology used in this report, see the *Healthy People 2010 Statistical Notes* publication.[6] Detailed information on data quality and limitations is presented in the appendix of the annual report, *Vital Statistics of California.*[1] Formulas used to calculate death rates are included in the technical notes of the *County Health Status Profiles* report.[10]

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[10]Schmidt, C. *County Health Status Profiles 2001*. Center for Health Statistics, California Department of Health. Services, April 2001

TABLE 1
DEATHS DUE TO CEREBROVASCULAR DISEASE BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 1999
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
										TOTAL		MALE		FEMALE	
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL															
UNDER 1	11	6	5	553,480	283,033	270,447	2.0 *	2.1 *	1.8 *	0.8	3.2	0.4	3.8	0.2	3.5
1 - 4	6	3	3	2,218,731	1,134,840	1,083,891	0.3 *	0.3 *	0.3 *	0.1	0.5	0.0	0.6	0.0	0.6
5 - 14	7	3	4	5,438,254	2,785,041	2,653,213	0.1 *	0.1 *	0.2 *	0.0	0.2	0.0	0.2	0.0	0.3
15 - 24	14	8	6	4,490,994	2,331,075	2,159,919	0.3 *	0.3 *	0.3 *	0.1	0.5	0.1	0.6	0.1	0.5
25 - 34	75	45	30	5,088,372	2,693,838	2,394,534	1.5	1.7	1.3	1.1	1.8	1.2	2.2	0.8	1.7
35 - 44	287	143	144	5,703,159	2,911,607	2,791,552	5.0	4.9	5.2	4.5	5.6	4.1	5.7	4.3	6.0
45 - 54	666	359	307	4,284,494	2,127,558	2,156,936	15.5	16.9	14.2	14.4	16.7	15.1	18.6	12.6	15.8
55 - 64	1,003	566	437	2,647,776	1,289,251	1,358,525	37.9	43.9	32.2	35.5	40.2	40.3	47.5	29.2	35.2
65 - 74	2,626	1314	1312	1,945,679	889,827	1,055,852	135.0	147.7	124.3	129.8	140.1	139.7	155.7	117.5	131.0
75 - 84	6,208	2723	3485	1,272,523	519,523	753,000	487.8	524.1	462.8	475.7	500.0	504.4	543.8	447.4	478.2
85 & OLDER	7,176	2094	5082	429,016	134,219	294,797	1,672.7	1,560.1	1,723.9	1,634.0	1,711.4	1,493.3	1,627.0	1,676.5	1,771.3
UNKNOWN	0	0	0												
TOTAL	18,079	7,264	10,815	34,072,478	17,099,812	16,972,666	53.1	42.5	63.7	52.3	53.8	41.5	43.5	62.5	64.9
AGE-ADJUSTED							63.3	64.7	61.5	62.3	64.2	63.2	66.2	60.4	62.7
ASIAN/OTHER															
UNDER 1	0	0	0	65,732	33,636	32,096	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 - 4	1	1	0	260,730	133,774	126,956	0.4 *	0.7 *	0.0 +	0.0	1.1	0.0	2.2	-	-
5 - 14	0	0	0	637,566	327,540	310,026	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 - 24	1	0	1	584,065	299,316	284,749	0.2 *	0.0 +	0.4 *	0.0	0.5	-	-	0.0	1.0
25 - 34	3	2	1	635,628	321,836	313,792	0.5 *	0.6 *	0.3 *	0.0	1.0	0.0	1.5	0.0	0.9
35 - 44	37	16	21	685,240	331,715	353,525	5.4	4.8 *	5.9	3.7	7.1	2.5	7.2	3.4	8.5
45 - 54	104	49	55	528,902	250,278	278,624	19.7	19.6	19.7	15.9	23.4	14.1	25.1	14.5	25.0
55 - 64	164	92	72	300,304	142,774	157,530	54.6	64.4	45.7	46.3	63.0	51.3	77.6	35.1	56.3
65 - 74	296	151	145	209,410	91,786	117,624	141.3	164.5	123.3	125.2	157.5	138.3	190.8	103.2	143.3
75 - 84	512	252	260	116,337	50,337	66,000	440.1	500.6	393.9	402.0	478.2	438.8	562.4	346.1	441.8
85 & OLDER	434	193	241	35,195	15,278	19,917	1,233.1	1,263.3	1,210.0	1,117.1	1,349.1	1,085.0	1,441.5	1,057.3	1,362.8
UNKNOWN	0	0	0												
TOTAL	1,552	756	796	4,059,109	1,998,270	2,060,839	38.2	37.8	38.6	36.3	40.1	35.1	40.5	35.9	41.3
AGE-ADJUSTED							56.6	62.1	52.3	53.7	59.5	57.6	66.6	48.6	56.0
BLACK															
UNDER 1	2	1	1	37,436	19,147	18,289	5.3 *	5.2 *	5.5 *	0.0	12.7	0.0	15.5	0.0	16.2
1 - 4	0	0	0	150,150	76,493	73,657	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 - 14	3	1	2	412,399	208,881	203,518	0.7 *	0.5 *	1.0 *	0.0	1.6	0.0	1.4	0.0	2.3
15 - 24	3	2	1	352,398	186,295	166,103	0.9 *	1.1 *	0.6 *	0.0	1.8	0.0	2.6	0.0	1.8
25 - 34	11	7	4	361,723	189,557	172,166	3.0 *	3.7 *	2.3 *	1.2	4.8	1.0	6.4	0.0	4.6
35 - 44	44	27	17	387,780	188,667	199,113	11.3	14.3	8.5 *	8.0	14.7	8.9	19.7	4.5	12.6
45 - 54	114	66	48	274,298	129,075	145,223	41.6	51.1	33.1	33.9	49.2	38.8	63.5	23.7	42.4
55 - 64	166	100	66	164,532	76,514	88,018	100.9	130.7	75.0	85.5	116.2	105.1	156.3	56.9	93.1
65 - 74	303	142	161	103,767	44,942	58,825	292.0	316.0	273.7	259.1	324.9	264.0	367.9	231.4	316.0
75 - 84	403	164	239	58,756	22,082	36,674	685.9	742.7	651.7	618.9	752.9	629.0	856.4	569.1	734.3
85 & OLDER	360	89	271	17,677	5,158	12,519	2,036.5	1,725.5	2,164.7	1,826.2	2,246.9	1,367.0	2,084.0	1,907.0	2,422.4
UNKNOWN	0	0	0												
TOTAL	1,409	599	810	2,320,916	1,146,811	1,174,105	60.7	52.2	69.0	57.5	63.9	48.0	56.4	64.2	73.7
AGE-ADJUSTED							98.6	102.3	93.9	93.3	103.8	93.5	111.1	87.4	100.4
HISPANIC															
UNDER 1	6	3	3	263,940	134,897	129,043	2.3 *	2.2 *	2.3 *	0.5	4.1	0.0	4.7	0.0	5.0
1 - 4	3	1	2	1,043,348	532,534	510,814	0.3 *	0.2 *	0.4 *	0.0	0.6	0.0	0.6	0.0	0.9
5 - 14	2	2	0	2,187,045	1,117,326	1,069,719	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.4	-	-
15 - 24	9	6	3	1,555,795	803,837	751,958	0.6 *	0.7 *	0.4 *	0.2	1.0	0.1	1.3	0.0	0.9
25 - 34	40	24	16	1,812,547	1,014,469	798,078	2.2	2.4	2.0 *	1.5	2.9	1.4	3.3	1.0	3.0
35 - 44	76	43	33	1,581,171	842,312	738,859	4.8	5.1	4.5	3.7	5.9	3.6	6.6	2.9	6.0
45 - 54	159	95	64	912,180	462,923	449,257	17.4	20.5	14.2	14.7	20.1	16.4	24.6	10.8	17.7
55 - 64	152	73	79	481,158	233,374	247,784	31.6	31.3	31.9	26.6	36.6	24.1	38.5	24.9	38.9
65 - 74	398	211	187	309,686	140,820	168,866	128.5	149.8	110.7	115.9	141.1	129.6	170.1	94.9	126.6
75 - 84	526	245	281	152,091	62,846	89,245	345.8	389.8	314.9	316.3	375.4	341.0	438.7	278.0	351.7
85 & OLDER	437	148	289	53,802	18,170	35,632	812.2	814.5	811.1	736.1	888.4	683.3	945.8	717.6	904.6
UNKNOWN	0	0	0												
TOTAL	1,808	851	957	10,352,763	5,363,508	4,989,255	17.5	15.9	19.2	16.7	18.3	14.8	16.9	18.0	20.4
AGE-ADJUSTED							42.9	46.8	39.8	40.9	45.0	43.4	50.2	37.2	42.4
WHITE															
UNDER 1	3	2	1	186,372	95,353	91,019	1.6 *	2.1 *	1.1 *	0.0	3.4	0.0	5.0	0.0	3.3
1 - 4	2	1	1	764,503	392,039	372,464	0.3 *	0.3 *	0.3 *	0.0	0.6	0.0	0.8	0.0	0.8
5 - 14	2	0	2	2,201,244	1,131,294	1,069,950	0.1 *	0.0 +	0.2 *	0.0	0.2	-	-	0.0	0.4
15 - 24	1	0	1	1,998,736	1,041,627	957,109	0.1 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3
25 - 34	21	12	9	2,278,474	1,167,976	1,110,498	0.9	1.0 *	0.8 *	0.5	1.3	0.4	1.6	0.3	1.3
35 - 44	130	57	73	3,048,968	1,548,913	1,500,055	4.3	3.7	4.9	3.5	5.0	2.7	4.6	3.8	6.0
45 - 54	289	149	140	2,569,114	1,285,282	1,283,832	11.2	11.6	10.9	10.0	12.5	9.7	13.5	9.1	12.7
55 - 64	521	301	220	1,701,782	836,589	865,193	30.6	36.0	25.4	28.0	33.2	31.9	40.0	22.1	28.8
65 - 74	1,629	810	819	1,322,816	612,279	710,537	123.1	132.3	115.3	117.2	129.1	123.2	141.4	107.4	123.2
75 - 84	4,767	2062	2705	945,339	384,258	561,081	504.3	536.6	482.1	489.9	518.6	513.5	559.8	463.9	500.3
85 & OLDER	5,945	1664	4281	322,342	95,613	226,729	1,844.3	1,740.3	1,888.2	1,797.4	1,891.2	1,656.7	1,824.0	1,831.6	1,944.7
UNKNOWN	0	0	0												
TOTAL	13,310	5,058	8,252	17,339,690	8,591,223	8,748,467	76.8	58.9	94.3	75.5	78.1	57.3	60.5	92.3	96.4
AGE-ADJUSTED							64.4	65.3	63.2	63.3	65.5	63.4	67.1	61.8	64.5

Note: Rates are per 100,000 population; ICD-10 Codes I60-I69.
White, Black, and Asian/Other exclude Hispanic ethnicity.

* Death rate unreliable, relative standard error is greater than or equal to 23%.
\+ Standard error indeterminate, death rate based on no (zero) deaths.
\- Confidence limit is not calculated for no (zero) deaths.

Sources: State of California, Department of Finance, 1999 Population Projections with Age, Sex and Race/Ethnic Detail, May 2000.
State of California, Department of Health Services, Death Records.

TABLE 2
DEATHS DUE TO CEREBROVASCULAR DISEASE
CALIFORNIA COUNTIES, 1999
(By Place of Residence)

COUNTY	1999 DEATHS	PERCENT	1999 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	18,079	100.0	34,072,478	53.1	63.3	62.3	64.2
ALAMEDA	846	4.7	1,448,643	58.4	69.7	65.0	74.4
ALPINE	1	a	1,226	81.6 *	99.6 *	0.0	295.0
AMADOR	34	0.2	34,410	98.8	66.1	43.8	88.5
BUTTE	179	1.0	204,216	87.7	59.7	50.8	68.6
CALAVERAS	28	0.2	40,597	69.0	50.3	31.2	69.4
COLUSA	6	a	20,091	29.9 *	29.3 *	5.8	52.8
CONTRA COSTA	622	3.4	921,662	67.5	74.7	68.8	80.5
DEL NORTE	18	0.1	30,358	59.3 *	52.0 *	27.9	76.1
EL DORADO	76	0.4	156,996	48.4	51.1	39.5	62.7
FRESNO	415	2.3	800,121	51.9	63.6	57.5	69.8
GLENN	24	0.1	28,438	84.4	77.6	46.4	108.8
HUMBOLDT	88	0.5	127,658	68.9	68.9	54.5	83.3
IMPERIAL	56	0.3	150,381	37.2	49.2	36.3	62.1
INYO	11	0.1	18,348	60.0 *	36.1 *	14.7	57.4
KERN	300	1.7	662,472	45.3	55.6	49.3	61.9
KINGS	52	0.3	123,683	42.0	67.2	48.9	85.5
LAKE	60	0.3	58,335	102.9	58.9	43.9	73.9
LASSEN	11	0.1	35,208	31.2 *	36.1 *	14.8	57.5
LOS ANGELES	4435	24.5	9,727,841	45.6	59.9	58.1	61.7
MADERA	54	0.3	121,779	44.3	48.4	35.5	61.3
MARIN	191	1.1	247,073	77.3	77.4	66.4	88.5
MARIPOSA	13	0.1	16,339	79.6 *	50.0 *	22.7	77.4
MENDOCINO	57	0.3	88,978	64.1	59.6	44.1	75.1
MERCED	110	0.6	210,707	52.2	73.1	59.4	86.8
MODOC	12	0.1	10,384	115.6 *	80.2 *	34.8	125.5
MONO	2	a	10,730	18.6 *	26.7 *	0.0	64.6
MONTEREY	206	1.1	395,133	52.1	67.4	58.2	76.6
NAPA	134	0.7	125,123	107.1	78.1	64.8	91.4
NEVADA	86	0.5	94,014	91.5	63.4	49.9	76.9
ORANGE	1340	7.4	2,787,593	48.1	67.7	64.1	71.4
PLACER	159	0.9	233,836	68.0	72.5	61.2	83.8
PLUMAS	10	0.1	20,714	48.3 *	32.4 *	12.1	52.6
RIVERSIDE	850	4.7	1,519,469	55.9	54.3	50.7	58.0
SACRAMENTO	723	4.0	1,189,056	60.8	73.0	67.7	78.4
SAN BENITO	20	0.1	50,087	39.9	47.3	26.5	68.1
SAN BERNARDINO	726	4.0	1,688,984	43.0	64.2	59.5	68.9
SAN DIEGO	1507	8.3	2,884,572	52.2	60.9	57.8	64.0
SAN FRANCISCO	603	3.3	788,975	76.4	61.1	56.2	66.0
SAN JOAQUIN	401	2.2	566,793	70.7	77.0	69.5	84.5
SAN LUIS OBISPO	175	1.0	247,880	70.6	58.5	49.8	67.2
SAN MATEO	495	2.7	735,381	67.3	68.1	62.1	74.1
SANTA BARBARA	270	1.5	408,292	66.1	64.8	57.1	72.6
SANTA CLARA	751	4.2	1,732,034	43.4	63.4	58.8	68.0
SANTA CRUZ	119	0.7	255,825	46.5	49.7	40.7	58.7
SHASTA	104	0.6	171,211	60.7	54.6	44.1	65.1
SIERRA	3	a	3,427	87.5 *	48.7 *	0.0	104.1
SISKIYOU	35	0.2	44,847	78.0	58.3	38.9	77.7
SOLANO	220	1.2	392,201	56.1	85.8	74.3	97.3
SONOMA	333	1.8	450,187	74.0	67.7	60.4	74.9
STANISLAUS	255	1.4	446,056	57.2	67.4	59.1	75.7
SUTTER	59	0.3	79,992	73.8	71.2	53.0	89.4
TEHAMA	50	0.3	55,806	89.6	68.2	49.1	87.3
TRINITY	8	a	13,353	59.9 *	53.9 *	16.2	91.6
TULARE	180	1.0	371,640	48.4	57.6	49.2	66.1
TUOLUMNE	37	0.2	54,631	67.7	48.3	32.6	64.0
VENTURA	377	2.1	744,825	50.6	64.1	57.6	70.6
YOLO	93	0.5	160,805	57.8	73.4	58.5	88.3
YUBA	49	0.3	63,062	77.7	97.1	69.9	124.4

Note: Rates are per 100,000 population; ICD-10 codes I60-I69.
* Death rate unreliable (relative standard error is greater than or equal to 23%).
a Represents a percentage of more than zero but less than 0.05.

Sources: State of California, Department of Finance, Race/Ethnic Population Estimates by County with Age and Sex Detail, 1970-1999, May 2000.
State of California, Department of Health Services, Death Records.